

## ESTIMATING SOIL LOSS FROM WIND EROSION

The wind erosion equation  $E = f (IKCLV)$  is used to estimate soil loss by wind erosion.

$E$  = the predicted average annual soil loss expressed in tons per acre per year.

$f$  = a function of.

$I$  = the soil erodibility. It is expressed as the average annual soil loss per 1 acre that would occur from an "isolated," "level," "smooth," "unsheltered," "wide," and "bare" field with a noncrusted surface where the climatic factor is 100 percent.

$K$  = the soil ridge roughness factor. This factor reflects the effect of ridging in the field being evaluated, compared to a standard height-spacing ratio of 1:4 (height of ridges:distance between ridges). Distance between ridges is measured parallel to the prevailing wind erosion direction.

$C$  = the climatic factor. This factor, is based on the average wind velocity and or the Thornthwaite precipitation effectiveness index for that location based on official weather records.

$L$  = the unsheltered distance across a field. For annual estimates using the critical period, this distance is along the prevailing wind erosion direction. For crop stage period estimates,  $L$  is an equivalent distance based on preponderance.

$V$  = the vegetative cover. The " $V$ " value is expressed as equivalent flat small grain residue (SGe). This value combines three conditions:

(1) the quantity of residue; (2) the kind of residue; and (3) the orientation of the residue.